

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
15 September 2005 (15.09.2005)

PCT

(10) International Publication Number
WO 2005/084533 A1

(51) International Patent Classification⁷: **A61B 5/00,**
5/0432

(21) International Application Number:
PCT/IB2005/050440

(22) International Filing Date: 2 February 2005 (02.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/548,835 27 February 2004 (27.02.2004) US

(71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS, N.V.** [NL/NL];
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **GEHMAN, Stacy,**
Earl [US/US]; 595 Miner Road, Cleveland, OH 44143
(US). **LYSTER, Thomas, Dean** [US/US]; 595 Miner
Road, Cleveland, OH 44143 (US). **RUSSELL, James,**
Knox [US/US]; 595 Miner Road, Cleveland, OH 44143
(US). **FAY-LAURIA, Cheryl, A.** [US/US]; 595 Miner
Road, Cleveland, OH 44143 (US).

(74) Common Representative: **KONINKLIJKE PHILIPS
ELECTRONICS, N.V.;** c/o LUNDIN, Thomas, M., 595
Miner Road, Cleveland, OH 44143 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,
ZM, ZW.

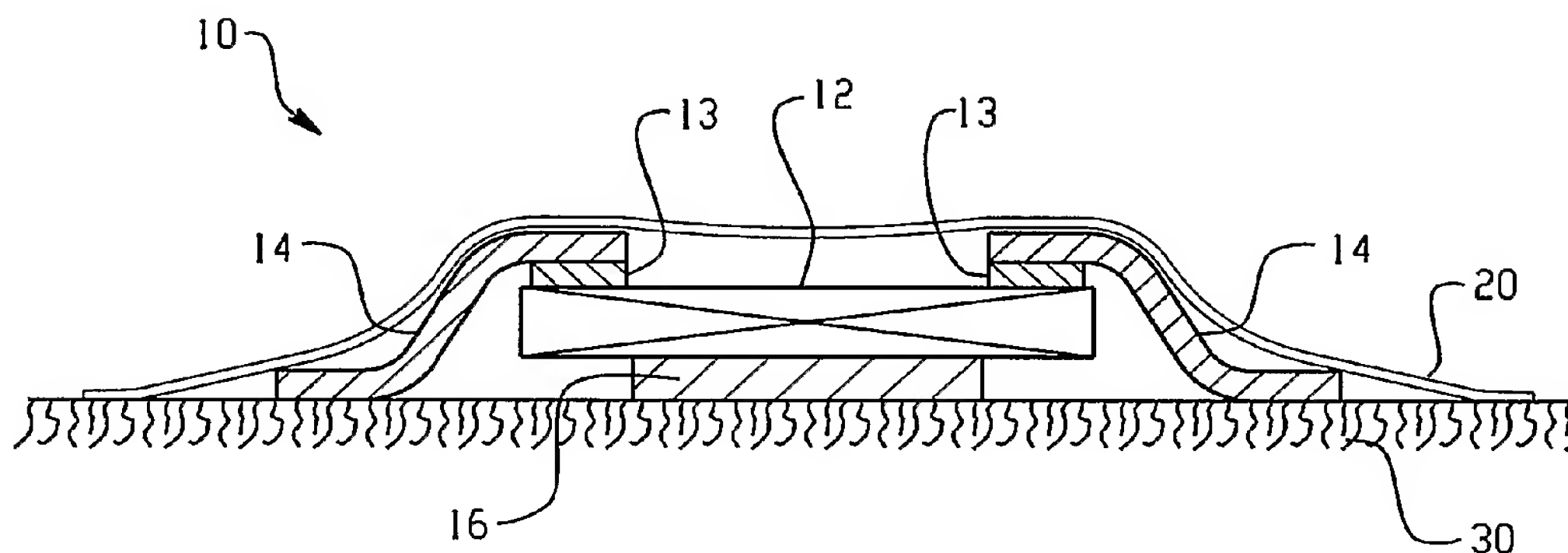
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— as to applicant's entitlement to apply for and be granted
a patent (Rule 4.17(ii)) for the following designations AE,
AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE,
EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,
JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,
MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM,

[Continued on next page]

(54) Title: WEARABLE WIRELESS DEVICE FOR MONITORING, ANALYZING AND COMMUNICATING PHYSIOLOGICAL STATUS



(57) Abstract: A wearable compact, lightweight, noninvasive, wearable "unified" device or system (10), that does not compromise a user's motion and flexibility, detects, processes, analyzes and reports predetermined physical states of a human body. The system includes at least one pair of sense electrodes (14) and one reference electrode (16), each configured to be adhesively attached to a surface of the body (30). An electronics module (12) is in electrical communication with each of the electrodes, includes a power source, and processes and analyzes signals provided by the electrodes. The plurality of electrodes and the electronics module are covered by a single adhesive membrane (20) that enables the wearable device to adhere to the surface of the body.

WO 2005/084533 A1



PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.